



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,423	03/16/2006	Joseph Bertony	026328-00007	4452
4372	7590	09/17/2007		
ARENT FOX LLP 1050 CONNECTICUT AVENUE, N.W. SUITE 400 WASHINGTON, DC 20036			EXAMINER WIEHE, NATHANIEL EDWARD	
			ART UNIT 3745	PAPER NUMBER
			NOTIFICATION DATE 09/17/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DCIPDocket@arentfox.com
IPMatters@arentfox.com
Patent_Mail@arentfox.com

Office Action Summary	Application No. 10/528,423	Applicant(s) BERTONY, JOSEPH	
	Examiner Nathan Wiehe	Art Unit 3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments, see page 6, filed 6 July 2007, with respect to the rejection(s) of claim(s) 1,3,4 and 11 under 35 U.S.C. § 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Saiz.

In regard to Kolozsy, Applicant argues that it would not be obvious to add a edge strip to a fabric blade. However, the fabric blades of wind turbines are under considerable tension and would be sufficiently rigid to support the edge strips of Kolozsy.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,3,4 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saiz (5,784,978) in view of Benesh (4,359,311). Saiz discloses a wind turbine rotating about a longitudinal axis perpendicular to the direction of fluid flow. The turbine includes dihedral blades, formed by adjacent sails (3,3') connected along edges (7,7'), having a axial cross-sectional width that increases along the axis (See Fig. 1). The

Art Unit: 3745

leading edge surface of the blades would diver fluid flow impinging thereon generating a zone of reduced fluid pressure and the trailing surfaces would have turbulent fluid flow impinging thereon to generate a zone of increase fluid pressure acting thereon due to the blades dihedral shape. Saiz's blades/sails are arranged tangentially to the axis and therefore have a pitch of 90°. Saiz does not disclose the use of three equally spaced blades. Benesh discloses the use of three symmetrically disposed blades in a vertical axis turbine reduces vibrations caused by variations of starting torque directions (Benesh column 1, lines 43-49). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the vertical axis turbine of Saiz by using a three blade arrangement as taught by Benesh for the purposed of reducing starting torque induced vibration.

Claims 2 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saiz (5,784,978) in view of Benesh (4,359,311) as applied to claims 1 and 11 above, and further in view of Kolozsy (1,172,149). The modified invention of Saiz discloses the invention substantially as claimed except for the use of longitudinally extending rearwardly inclined edge strip. Kolozsy discloses a vertical axis turbine including a plurality of blades (22) with a longitudinally extending edge strip (23). The edge strips of Kolozsy are indicated as assisting the rotation of the rotor due to the impingement of wind on the blades (22) (Kolozsy page 1, line 57-63). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the vertical axis turbine of Saiz by including a edge strip as taught by Kolozsy for the purpose of assisting the rotation of the rotor due to the

Art Unit: 3745

impingement of wind thereon. Additionally, the strips of Kolozsy appear to be flush with both the leading and trailing surfaces at least as evidenced by the fact that they extend along the entire periphery of the blade identically to the strips disclosed by applicant.

Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saiz (5,784,978) in view of Benesh (4,359,311) as applied to claim 1 above, and further in view of Wilhelm (5,044,878). The modified invention of Saiz discloses the invention substantially as claimed except for the use of a plurality of turbines mounted along the longitudinal axis. Wilhelm discloses a vertical axis turbine including multiple turbine rotors (11,12) mounted along the longitudinal axis. These rotors are radially displaced from one another by 60°. The use of multiple offset rotors is known to provide smooth output torques due to the more consistent blade surface area exposure provided by the offset relationship. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the vertical axis turbine of Saiz by utilizing multiple turbine rotors that are radially displaced from one another as taught by Wilhelm for the purpose of providing a smooth output torque.

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saiz (5,784,978) in view of Benesh (4,359,311) as applied to claim 1 above, and further in view of Bergstein (5,333,996). The modified invention of Saiz discloses the invention substantially as claimed except for the use of a liquid to cause rotation of the turbine and the turbine being connected to an electric generator. However, it is well known in the art of vertical axis turbines to not only utilize wind, but also water as the motive fluid, since they are both naturally occurring fluid currents. It is also known to provide the

Art Unit: 3745

rotation output of the turbines to an electrical generator for producing electricity.

Bergstein evidences both of these uses for a vertical axis turbine. Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the vertical axis turbine of Saiz by utilizing a liquid motive fluid and coupling the turbine to a generator since doing so it known in the art of vertical axis turbines, as evidenced by Bergstein.

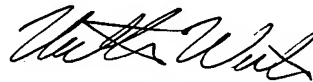
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Wiehe whose telephone number is (571)272-8648. The examiner can normally be reached on Mon.-Thur. and alternate Fri., 7am-4:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on (571)272-4820. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3745

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Nathan Wiehe
Examiner
Art Unit 3745



EDWARD K. LOOK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700

8/14/07